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MUSIC PRODUCTION

MUSIC PRODUCTION

GRADE 1 COURSEWORK EDITION

THE QUEEN'S AWARDS FOR ENTERPRISE 2018

SUITABLE FOR ALL MUSIC PRODUCTION SOFTWARE

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MUSIC PRODUCTION

COURSEWORK EDITION

GRADE 1

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For more information, turn to page 5

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Welcome to Music Production – Grade 1

1991 saw a paradigm shift in UK music education with the inception of Rockschool graded syllabi and now, some 25 years later, over 350,000 contemporary musicians, performers and artists have been awarded Rockschool qualifications. Subsequently, contemporary music education provision has seen universal acceptance from all areas of education and truly phenomenal growth the world over.

In keeping with our history of innovation, Rockschool's 25 year anniversary sees the release of the world's first ever music production graded syllabus. A syllabus that has been devised to afford opportunities to all aspiring producers, engineers, composers and performers that has not previously been available in an accredited, graded syllabus. All students can now develop their skills and knowledge in what is currently the fastest growing area of the music education industry whilst earning a globally recognised qualification.

As with all Rockschool syllabi, academic rigour and industry relevance are crucial and the 2018 Music Production Coursework Edition syllabus is no exception. The syllabus has seen contributions from hugely respected producers, engineers, composers, performers and educators from a diverse range of backgrounds. Amongst their glowing list of achievements, these industry experts can count credits such as:

- Blockbuster movie soundtracks
- Production and engineering duties for iconic, global artists
- Top ten singles
- Games soundtracks
- Conservatoire & university lecturing
- Degree programme authoring
- World DJ championships

Upon successful completion of Grade 8, all students will have demonstrated the skills and knowledge to progress to both higher education and ultimately the professional ranks.

Whatever your desire, be it music producer, recording engineer, mix or mastering engineer, editor, electronic music composer or merely to improve your knowledge of traditional and contemporary production techniques, this syllabus will ensure you gain the most comprehensive range of skills and knowledge currently available.

Nik Preston – Head of Product Development and Publishing

Book Contents
The book is divided into a number of sections:

- **Music Production Theory**
  Rockschool's Music Production syllabus provides you with the necessary material needed to achieve an understanding of key **music production terminology**, as well as **sound and audio fundamentals**, in relation to modern music production.

- **Listening Skills**
  Using audio examples provided, you will learn how to demonstrate effective listening skills relevant to modern music production. In this section, Rockschool's Music Production syllabus looks at **sonic fidelity**, **music theory & harmony** and **stylistic awareness**.

- **Coursework Task**
  In order to enhance your **technical skills**, you will be asked to complete a coursework task which will demonstrate your ability to use the digital audio workstation (DAW) of your choice.

  You must complete the coursework task before your exam and will be asked to upload your task and screen shots during the exam.

  In this section you will be given the opportunity to demonstrate both your skills and creativity in a simulated professional situation. You will be assessed on your ability to resolve industry standard scenarios using appropriate techniques and your DAW of choice.

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Audio
In addition to the grade book, we have also provided audio to support both curriculum content and the sample exam paper. This can be downloaded from RSL directly at *www.rslawards.com/downloads*

You will need to input this code when prompted: **K6NDVUCQVF**

The audio files are supplied in MP3 and/or WAV format(s). Once downloaded you will be able to play them on any compatible device.

You can find further details about Rockschool's Music Production syllabus by downloading the syllabus specification from our website: *www.rslawards.com*

All candidates should download and read the accompanying syllabus specification when using this grade book.

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Entering Rockschool Exams

Entering a Rockschool exam is easy, just go online and follow our simple process. All details for entering online, dates, fees and regulations can be found at *www.rslawards.com*

All candidates should ensure they bring the hard copy of their Grade syllabus book or their proof of digital purchase, their coursework task and screen shots, and headphones to the exam.

All Grade 6–8 candidates must ensure that they bring valid photo ID to their exam.

Marking Scheme

MUSIC PRODUCTION GRADES 1–8			
ELEMENT	Pass	Merit	Distinction
PART A: TERMINOLOGY & FUNDAMENTALS	15–18 out of 25	19–20 out of 25	21–25 out of 25
PART B: LISTENING SKILLS	9–10 out of 15	11–12 out of 15	13–15 out of 15
PART C: COURSEWORK TASK	36–44 out of 60	45–50 out of 60	51–60 out of 60
TOTAL MARKS	60%+	75%+	85%+

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Section A | Music Production Theory

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SUMMARY		
SECTION ***(Current section highlighted)***		**MARKS**
>	**Theoretical Written Exam**	**25 [25%]**
	Listening Test	15 [15%]
	Coursework Task	60 [60%]

The *Theoretical Written Exam* section of Rockschool Music Production Examinations covers the following:

- Music Production Terminology
- Sound & Audio Fundamentals

At Grade 1 the theory content covered will include subject areas such as identifying studio hardware, physical audio formats, analogue connectivity, computer & digital technology, DAW basics, microphones, MIDI basics, basic audio technology and the fundamentals of mono & stereo sound.

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Music Production Terminology

Studio Equipment

As an aspiring music producer, it's important that you can identify the key equipment that you are likely to come across.

Not all studios have the same equipment, for example a small 'project studio' will aim to get by on as little equipment as possible to keep the costs down. Whereas a commercial studio will aim to offer their clients the best equipment but charge a much higher price per day.

A recording studio is made up of a number of pieces of equipment; some of which will be consistent from studio to studio, while others will be bespoke to the studio and the way it's intended to be used.

The most common items you're likely to come across are:

- Mixing console / mixing desk
- Microphones
- Digital audio workstation
- Patch bay
- Instruments (such as drum kits & guitars)
- Cables

Here is a brief overview of each of these key items and what they do.

The Mixing Desk/Console

The mixing desk, also commonly known as the mixing console, is the central hub of the recording studio. It is used to connect all the other devices together and route the audio signal from one place to another.

The mixing desk can be identified by the banks of knobs, faders and buttons used to control the sound as it flows through the internal electronics.

Numerous channels can be found on a mixing desk, which the sound engineer will allocate to the various instruments being recorded. For example, channel 1 might be the bass guitar, channel 2 vocals, and so on.

The channels will be arranged from left to right, so if you look at the top left of the console and let your eyes follow a line straight down to the bottom left, you will have seen a whole channel.

The controls on each channel will be the same, so don't worry when you see hundreds of controls on a mixing desk. Once you know how to use one channel, you know how to use them all.

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Digital Audio Workstation

The digital audio workstation (abbreviated to DAW) is the name given to the computer system and software that can be used to record and edit the music.

DAWs are used in almost all forms of music production, from rock and pop to electronica and country music. The functionality and flexibility that modern software provides is extremely valuable to the modern music producer.

Looking back a few years, a producer would need to spend over £1000 per day to use a commercial studio with an expensive mixing desk that on it's own might have cost over £300,000. Now, a modern DAW is available for the cost of a computer and some software. This has made it possible for almost anyone to make great sounding music.

Hardware: DAWs can be based on any computer hardware, including Apple Mac OS, Windows PCs, Linux PCs and even iPad and iPhones.

Software: There are many different software packages available, but the most common ones are:

Apple Logic Pro

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Avid Pro Tools

Steinberg Cubase

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Ableton Live

Image-Line FL Studio

Instruments
A recording studio would be a quiet place without any music to record, and very few styles of music are made without any instruments at all.

The most common instruments you're likely to come across in a recording studio are:

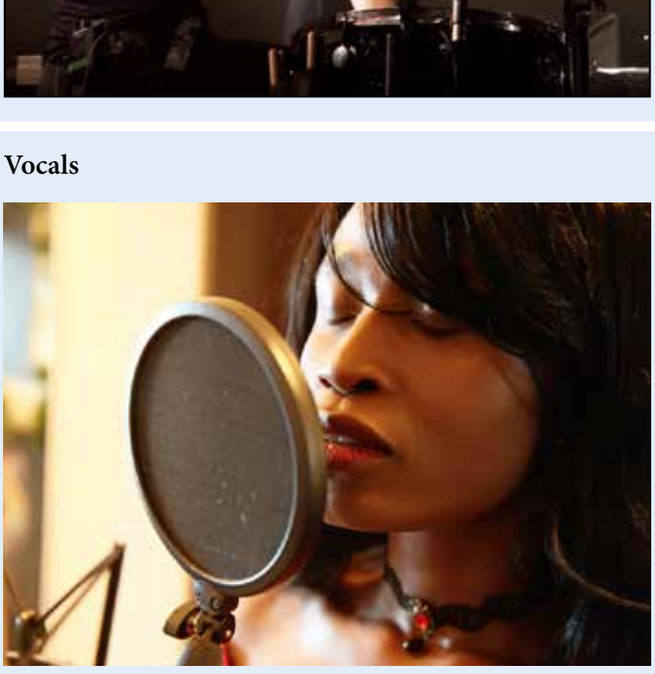
Electric Guitar

Acoustic Guitar

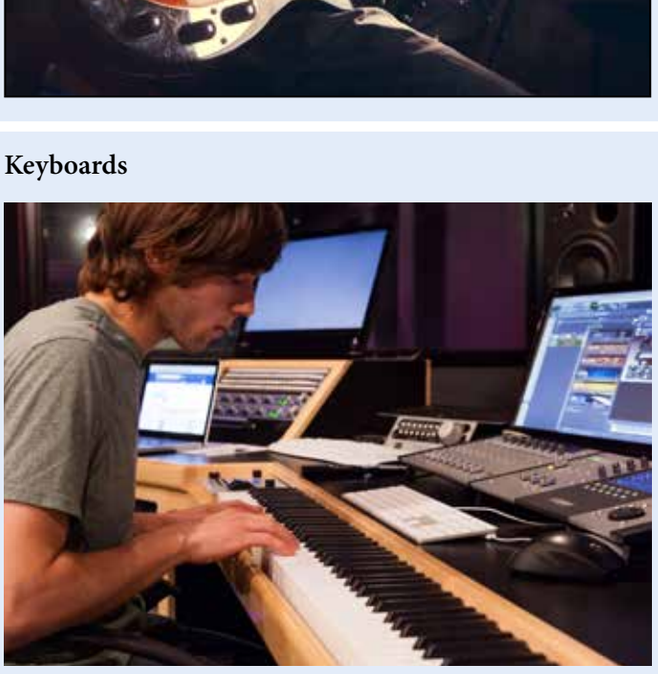
Drums

Bass Guitar

Vocals



Keyboards



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Of course, this is by no means an exclusive list and as a professional sound engineer or music producer you are likely to produce music in all styles and experience all sorts of different instruments from all over the world.

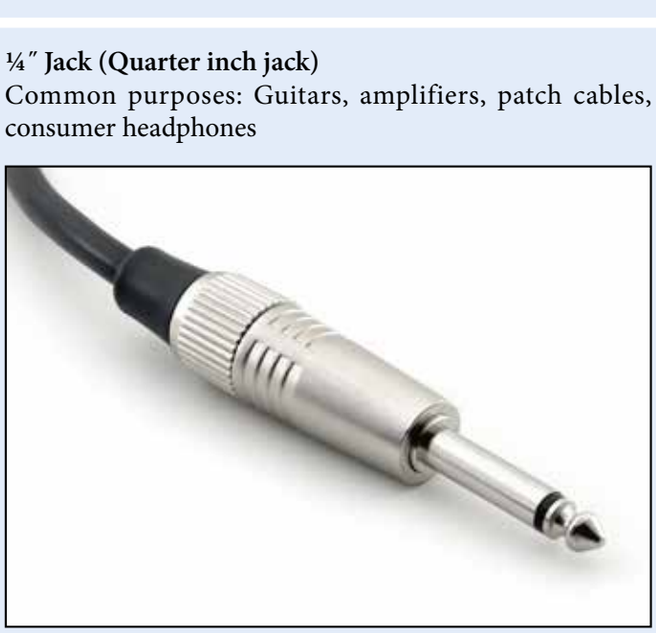
Cables & Connections
Possibly the less exciting part of music production but absolutely vital.

Cables are used to connect things together, whether that's a guitar to an amplifier, or a microphone to a mixing desk. There will be lots of different types of cables in the studio, used to connect different kinds of devices. The most common ones you're likely to come across are:

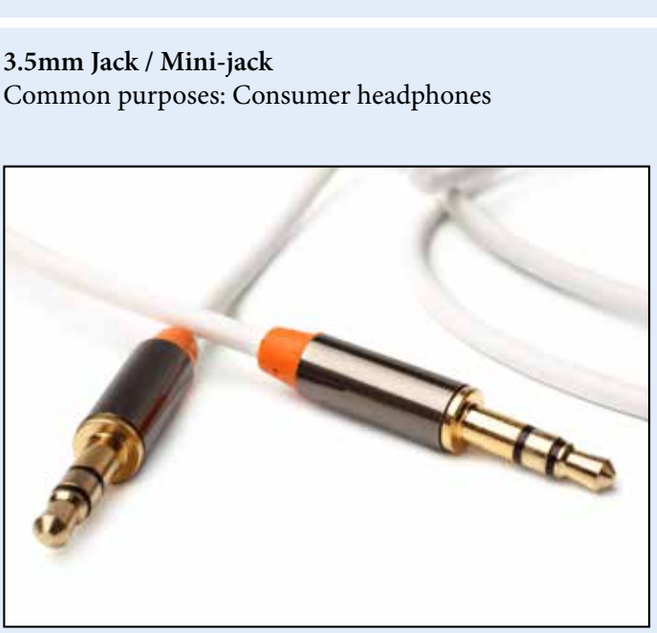
XLR
Common purposes: Microphones, AES/EBU, professional headphones

Phono/RCA
Common purposes: Hi-fi connections, SPDIF (Sony Philips digital interface)

¼″ Jack (Quarter inch jack)
Common purposes: Guitars, amplifiers, patch cables, consumer headphones



3.5mm Jack / Mini-jack
Common purposes: Consumer headphones



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5-Pin DIN
Common purposes: MIDI (musical instrument digital interface)

D-Sub
Common purposes: Connecting 8 channels of analogue or digital audio from one device to another. The connector is 'D' shaped with 24 pins to carry the signal.

Speakon
Common purposes: Connecting PA speakers to amplifiers

ADAT Lightpipe
Common purposes: Multitrack connections

USB
Common purposes: Audio interfaces, computer mouse/keyboard

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Formats
Once your music is ready for release, there are two overall methods avaliable to enable your fans to access it. This will be in either a physical or online format.

Physical formats include:

Compact Disc (CD)
The compact disc was introduced in the early 1980s and remains the most common physical format in use today, however, sales are beginning to decline as consumers turn to online formats. CDs are a digital storage medium.

Vinyl Record
Vinyl is an analogue medium that stores sound as grooves cut into the vinyl surface. It was the largest selling medium in the late 1970s, eventually giving way to the compact cassette.

Magnetic Tape
Magnetic tape is a medium which uses magnetically charged iron to represent audio waveforms. It comes on reels and is most likely to be found on compact cassettes (also known as cassette tapes) as shown below.

Minidisc
Minidisc is a format that was launched by Sony as a way of enhancing the compact disc. The technology was identical but it came in a smaller, more practical plastic case which helped avoid damage to the disc. Sadly it never really took off as the world moved towards online formats soon after it was launched.

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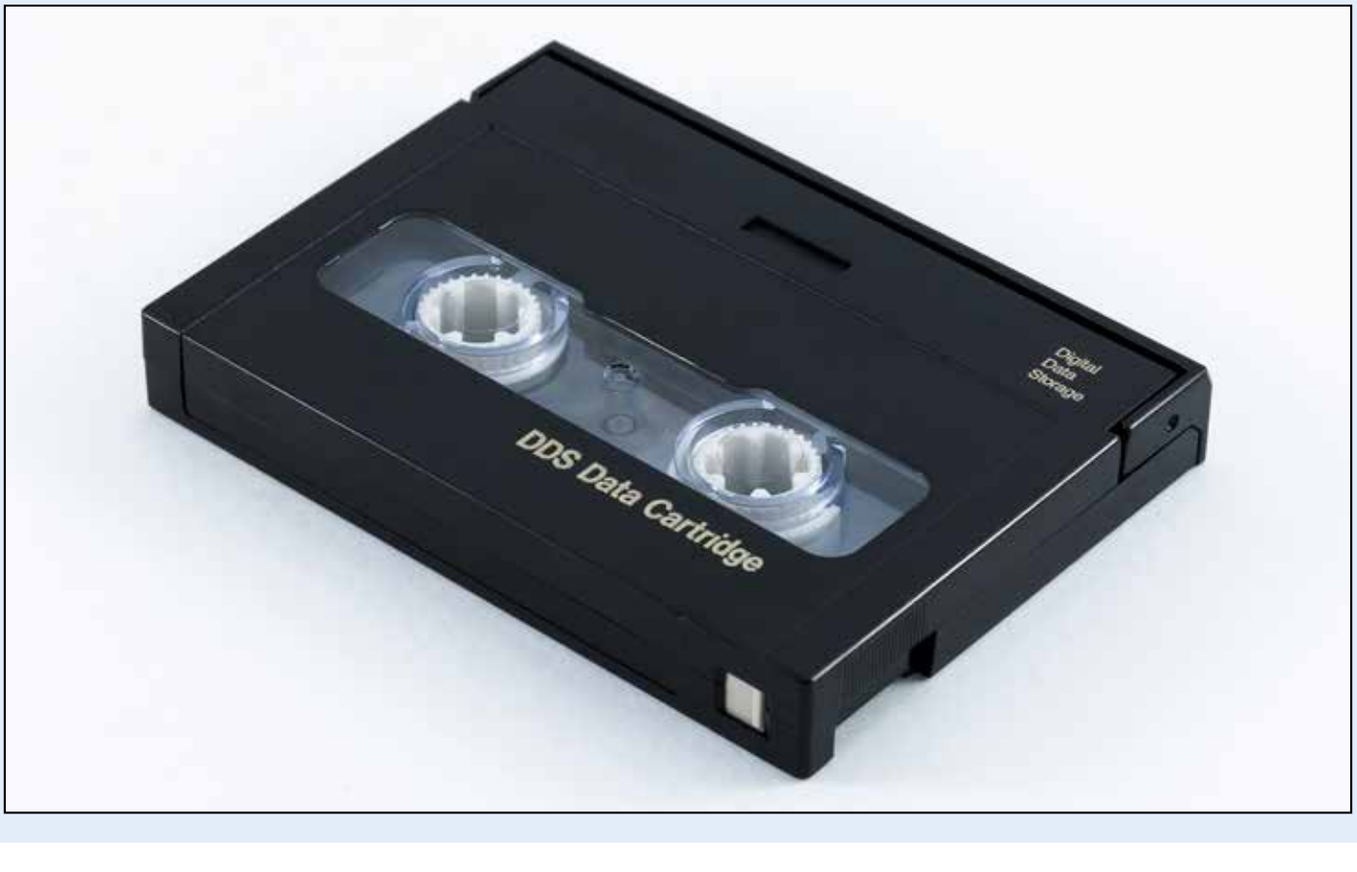
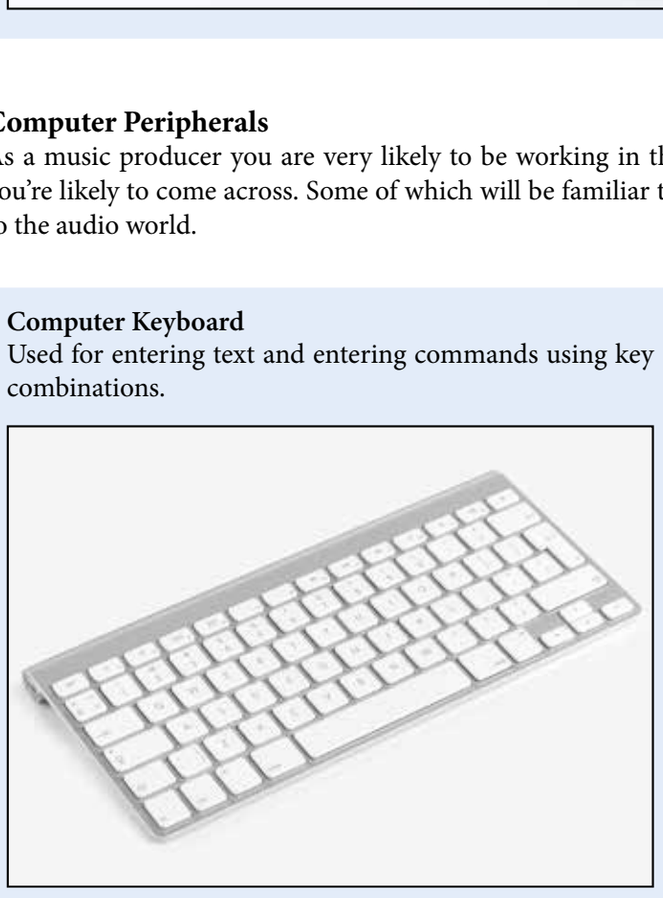
Digital Audio Tape (DAT)
DAT is a similar technology to compact cassette, however, rather than storing analogue waveforms on the tape, it records and plays back a digital signal which is converted by the playback device. DAT was the format of choice for storing mixes and masters in professional studios due to the high quality and ease of recording multiple versions to one tape.



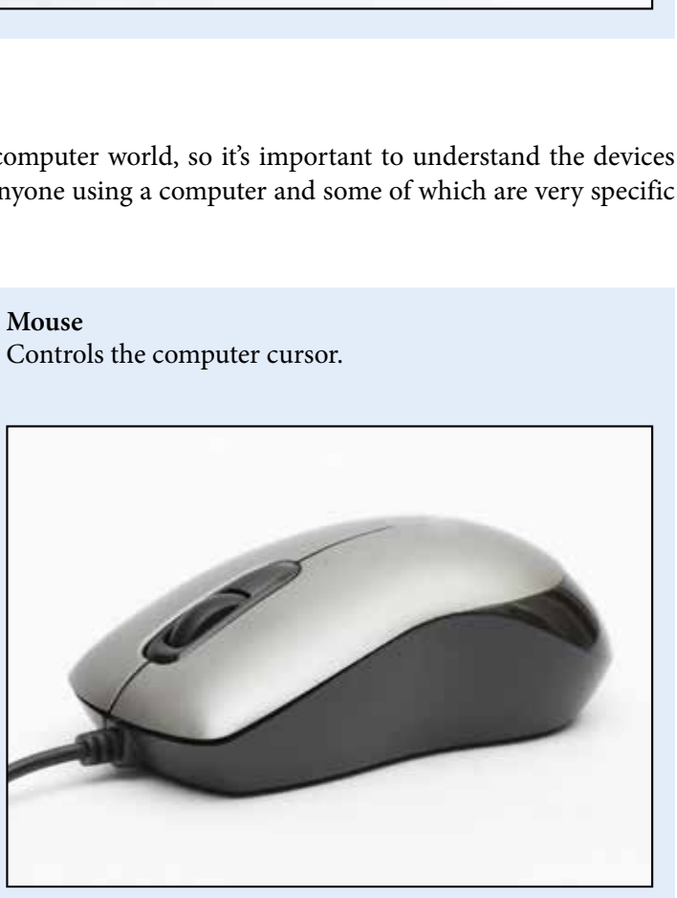
Computer Peripherals

As a music producer you are very likely to be working in the computer world, so it's important to understand the devices you're likely to come across. Some of which will be familiar to anyone using a computer and some of which are very specific to the audio world.

Computer Keyboard
Used for entering text and entering commands using key combinations.



Mouse
Controls the computer cursor.



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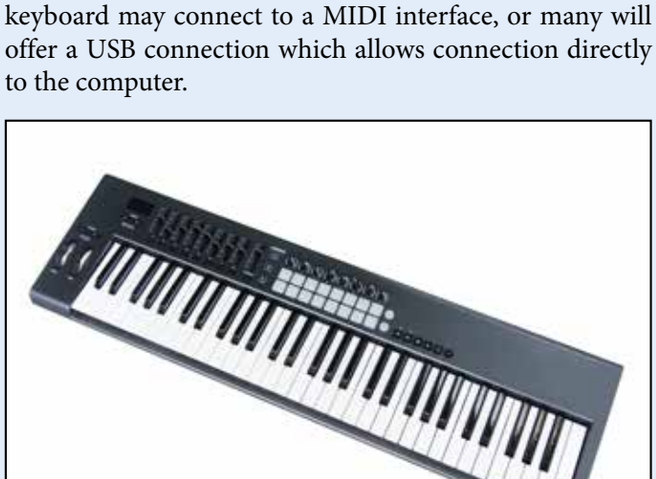
Monitor Display
Displays the computer software visually.

Audio Interface
This is a device which enhances or adds to the audio capabilities of the computer. Some computers may have a built in headphone connection, whereas an audio interface will provide the user with high quality audio inputs and outputs. The number of inputs and outputs is variable. It will most likely connect to the USB, Firewire or Thunderbolt connections of the computer.

MIDI Keyboard
This is a musical keyboard which is used to play other MIDI enabled devices (e.g. synthesisers) or enter musical performance data into the computer software. The MIDI keyboard may connect to a MIDI interface, or many will offer a USB connection which allows connection directly to the computer.



MIDI Interface
This is a device which enables the computer to communicate with MIDI equipment such as MIDI keyboards or synthesisers. It will generally connect to the USB port of the computer.

Sound and Audio Fundamentals

Microphones
The microphone is used to pick up the sounds that we produce (i.e. vocals or an acoustic guitar). It is converted into an electric signal that is then sent down a cable, which can be recorded.

There are lots of different makes, models and kinds of microphone. It will be very useful for you to be able to identify the different microphones. Try and remember what each of them looks like.

Here are some of the more common microphones that you might come across:

Shure SM58
Common use:
Live vocals
Price range:
Affordable

Shure SM57
Common use:
Electric guitars / drums
Price range:
Affordable

AKG D112
Common use:
Kick drums
Price range:
Mid-Range

AKG C451 (AKG C451B pictured below)
Common use:
Drums / acoustic guitars
Price range:
Mid-Range

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Neumann U87
Common use:
Studio vocals
Price range:
Professional

DAW Functionality

The functionality available will vary from platform to platform, but some of the basic functions such as recording and mixing are consistently provided. Each software package has a large following and as with all equipment producers, engineers and performers all have their own preferences and requirements.

Some common themes you will find among these software packages are:

Arrange window

Mix Window

Sample Editor

Transport

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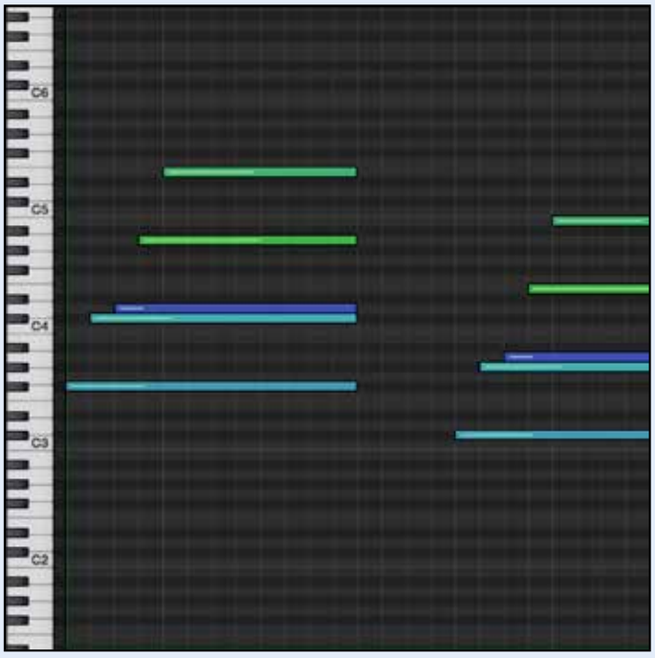
Plugins

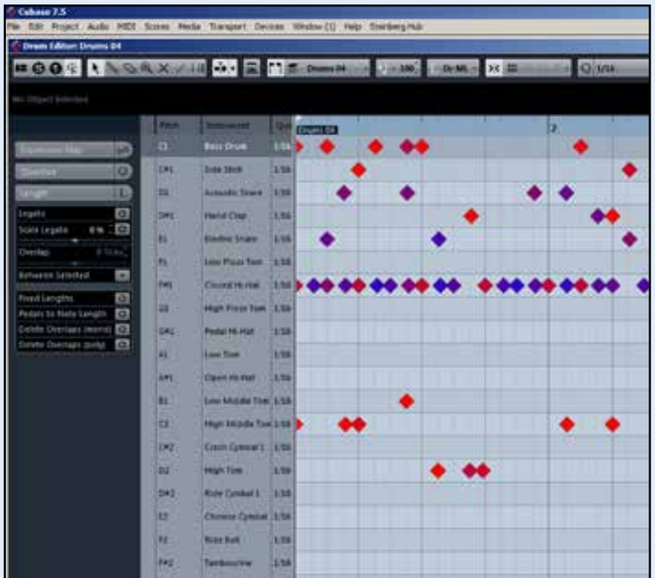
Software Instruments

Piano Roll Editor

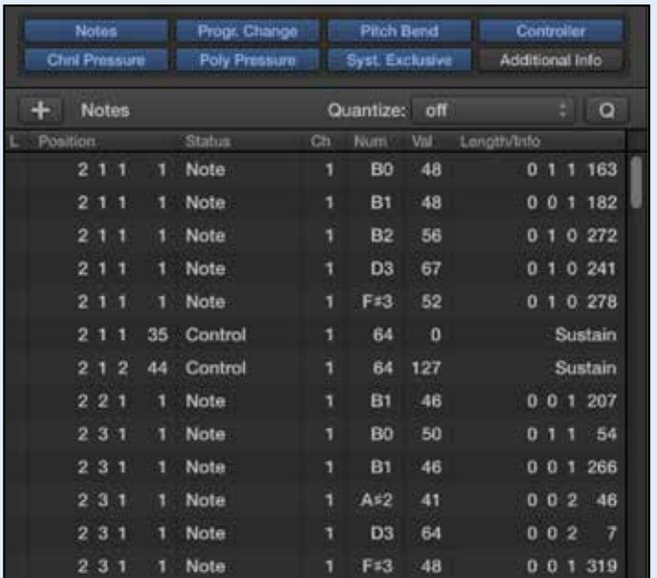


Score Editor

Drum Editor



Event Editor



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Hardware Controls

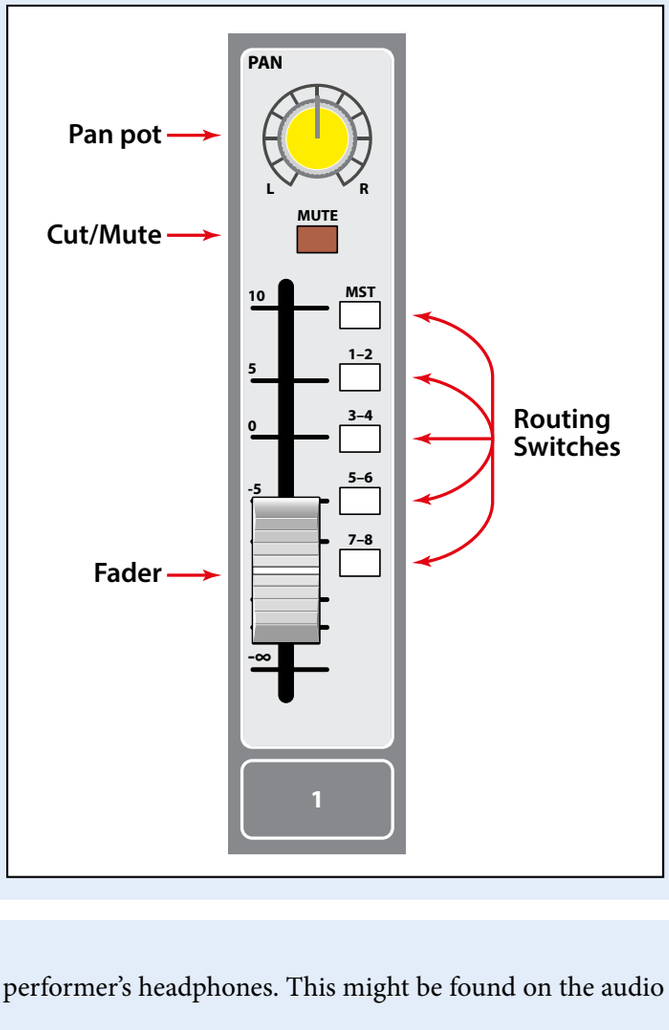
While some mixing desks offer additional functionality, there are some functions which you will always find. Such as:

Fader
Controls the level of the audio leaving a channel

Pan pot (Panoramic potentiometer)
Controls where the sound sits in the stereo spectrum between left and right.

Cut/Mute
Prevents any sound from leaving the channel.

Routing
Controls the path that the audio will take through the mixing desk.



Headphone Volume
Controls how loud the mix will be in the sound engineer's or performer's headphones. This might be found on the audio interface, mixing desk or a separate headphone amplifier.

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Sound and Acoustics
It's good to be able to communicate effectively with other music producers and sound engineers, so here are some fundamentals of sound that you should ensure you understand:

Mono
Mono is an abbreviation of 'monophonic sound' which means one channel of audio.

Stereo
Stereo is an abbreviation of 'stereophonic sound', which means two or more channels of audio used to create a more realistic representation of sound in the real world. In music this is accepted to mean two channels of audio, left and right. Left is for your left ear and right is for your right ear.

Surround Sound
Surround sound is a collection of audio formats, which require more than two channels of audio with the speakers surrounding the listener to create a more realistic sound than stereo.

Hi-fi
Hi-fi is an abbreviation of 'high fidelity'. In audio terms this means high quality. It would generally be the sound engineer's job to ensure the recorded audio is high fidelity.

Lo-fi
Lo-fi is an abbreviation of 'low fidelity'. In audio terms this would mean low quality. This low quality may be due to poor recording technique or may be a creative choice. One example of a creative use of lo-fi is distorting a guitar amplifier.

dB
dB is an abbreviation of decibel. A decibel is the unit of measurement for sound level. More decibels means the sound is louder.

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Section B | Listening Skills

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SUMMARY		
SECTION ***(Current section highlighted)***		**MARKS**
	Theoretical Written Exam	25 [25%]
>	**Listening Test**	**15 [15%]**
	Coursework Task	60 [60%]

The *Listening Test* section of Rockschool Music Production Examinations covers the following:

- Sonic Fidelity
- Music Theory & Harmony
- Stylistic Awareness

At Grade 1 the aural content covered will include subject areas such as identifying instruments in isolation and within a mix, relative pitch and basic note lengths and specific genres.

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Sonic Fidelity

Objective: Identify Instruments – Both in Isolation and Within a Mix
As a producer or sound engineer, your aural skills are extremely important as they enable you to hear the music and production values, so be mindful to always look after them. Avoid listening to music too loud and always be cautious of listening for too long. If you find yourself unavoidably subjected to high volume levels, be prepared to wear hearing protection.

Whilst it is difficult to improve your hearing per se, there are ways you can improve your aural skills. This can be achieved by training your ears and brain to identify the sounds that you hear. Your aural skills are associative in nature i.e. by associating particular labels to particular sounds your brain will associate the label with the sound and subsequently you'll stand a greater chance of identifying (and ultimately using) these sounds in the future. Be prepared to listen intently and always try to label new sounds.

At Grade 1, we'll start with some basic instrumentation. You should be able to identify different instruments both in isolation and within a mix.

Practise by listening to music and writing down the instruments you can hear.

- In audio example `LSG1SF1.mp3` you will hear a solo recording of an acoustic guitar
- In audio example `LSG1SF2.mp3` you will hear a guitar playing a melody over a backing track
- In audio example `LSG1SF3.mp3` you will hear a band recording with the bass guitar muted

In your Grade 1 examination you will be asked to identify any instrument from the following list: electric guitar, electric bass, acoustic drums and/or piano.

Please note, Rockschool uses the term 'sonic fidelity' to define anything of an audible nature, but it would be just as likely for this to be referenced as 'audio fidelity' and subsequently both terms should be learnt.

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Music Theory & Harmony

Objective: Identify Higher Pitch/Lower Pitch

As a music producer, a basic understanding of music theory and some ear training will be invaluable to you. It is important that you can recognise when pitches are ascending (higher than the previous note) and when they are descending (lower than the previous note). Here are two files for you to listen to so you can hear the differences in pitch. Both files will contain two notes, the first being middle C, the root note in all listening exercises.

- In audio example LSG1H1.mp3, you can hear the second note is a higher pitch than the root note.
- In audio example LSG1H2.mp3, you can hear the second note is a lower pitch than the root note.

Objective: Basic Note Length Recognition

Tempo literally means 'time'. In practice, tempo is the basic pulse of a piece of music; the rhythm of the music is based on this pulse. In a band, each member might be playing a different rhythmic pattern but for it to sound tight, all of those parts have to be played at the same tempo. A ticking clock divides time into units we call seconds. Music often has a regular 'ticking clock' running through it in the form of the pulse which divides the music into beats and bars. Tempo is measured in beats per minute (bpm). A clock ticks at a tempo of 60bpm but music can be played slower than that (at say, 40bpm) or faster (sometimes beyond 200bpm).

The beat is often defined by a note called a crotchet, also known as a quarter note. In much pop and rock, music is written in 4/4 time (also referred to as common time). The snare drum is often played on the second and fourth quarter note (referred to as the 'backbeat') and the bass drum is played in or around beats 1 & 3. The quarter note is often the note value we use to describe the tempo of western music and is defined by the bottom note in the time signature $\frac{4}{4}$. This refers to four quarter notes in a bar (sometimes also referred to as a measure).

In reality, music is played with a mixture of really long notes and extremely short notes and everything in between. Each note length has a different symbol that can be combined in any order you like.

This syllabus doesn't require the student to read standard music notation, but does include some examples purely for illustrative purposes. The table below shows the most common note values, starting with the longest note at the top and the shortest notes at the bottom. At this point, it's worth mentioning that there are two note-naming systems in use. First, there's the British system which is more traditional and uses words like 'crotchet' and 'quaver'. Second, there's the more modern American system which may be easier to understand because it simply divides $\frac{4}{4}$ time into fractions like quarter notes and eighth notes. You should be aware of both names, so we have shown both in the table.

BRITISH NAME	AMERICAN NAME	SYMBOL
SEMIBREVE	WHOLE NOTE	
MINIM	HALF NOTE	
CROTCHET	QUARTER NOTE	
QUAVER	EIGHTH NOTE	
SEMIQUAVER	16TH NOTE	

The whole note is one of the longest note types you're likely to see in popular music. A whole note sustains for the same amount of time that it takes to count '1, 2, 3, 4' beats at the tempo of the music. By comparison, a half note sustains for exactly half the time of the whole note, or in other words, two halves equal one whole. Likewise, four quarter notes equal one whole note and so on, with 8 eighth notes and 16 16th notes. In music, these fractions are called subdivisions.

- In audio example LSG1R1.mp3, you will hear a piano playing quarter notes on every downbeat of the measure.
- In audio example LSG1R2.mp3, you will hear a piano playing eighth notes on every downbeat of the measure.

From these, you can hear that the eighth notes in example 2 are played for half the length of time than the quarter notes in example 1.

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Stylistic Awareness – Pop

Defining genre in music is an almost insurmountable task. Sometimes people and the media will refer to an artist by genre, but many artists transcend genre. Many emerging styles are a fusion or hybrid of previous genres, and much of the classical repertoire is defined by date.

Whilst it is beyond the scope of this syllabus to rigidly define genre and sub-genre within contemporary music, we have gone some way towards illustrating some of the conventions found within certain areas of the contemporary music arena.

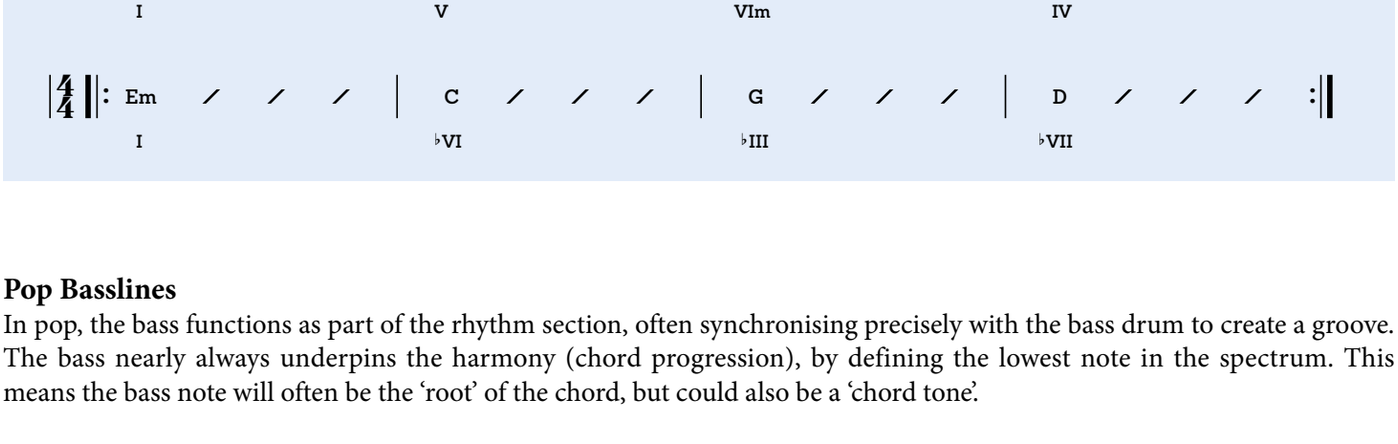
If you define it as 'music made for mass commercial appeal', you can easily see that stylistically, 'pop' music has changed enormously through the decades. It leaves you with artists as diverse as The Beatles, Rihanna and Jay-Z. Common to most pop is a song length of around three minutes, as a result of songs traditionally being written for radio and the single format. Pop also has formulaic song structures, normally comprising verses, choruses, intros and middle 8's. These are designed to help create tension and release (the cornerstone of most successful music) while vocal melodies, lyrics, musical hooks, grooves and production values target the listener's attention.

Pop often balances its relatively unsophisticated musicianship with cutting-edge production techniques. In doing so, it incorporates musical ideas from various genres but tends to present them in a more commercial way. Pop isn't defined by one type of musical line up but it is dominated by one type of musician: the vocalist. Melodic vocal writing (often referred to as 'top line' writing) is paramount to a pop record's success and where blues, rock 'n' roll, funk and jazz have sometimes tended to be more male-dominated, pop has often been more of an equal-opportunity employer, especially where singers are concerned.

Pop has always borrowed from underground music and pop from each decade is characterised by a specific style, such as synth pop in the 1980s, dance music in the 1990s, hip hop in the 2000s and electronica and R'n'B in the 2010s.

Pop Chord Progressions

These chord progressions are examples of four-chord loops. Some pop songs consist of the same chord loop played throughout; others vary the chords in different parts of the song.



Pop Basslines

In pop, the bass functions as part of the rhythm section, often synchronising precisely with the bass drum to create a groove. The bass nearly always underpins the harmony (chord progression), by defining the lowest note in the spectrum. This means the bass note will often be the 'root' of the chord, but could also be a 'chord tone'.

Vocal Harmonies

Vocal harmonies are an evergreen feature of pop, particularly in eras where vocal ensembles have dominated. The backing vocals (BVs) can follow the words sung by the main vocal to create texture (typically in a chorus) or can have their own separate 'call and response' part, responding to the main vocal.

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Pop Drums With Percussion

Mainstream pop music is designed to appeal to large numbers of people and so $\frac{4}{4}$ pop drum beats are often 'danceable', typically placing a solid bass-drum emphasis on the downbeat and with a consistent snare on the second and fourth beats. Sub-beats can be filled with more rhythmically complex material and pop drum-kit parts are often augmented with percussion instruments such as shakers, tambourines, cabasas or claves. Since the 1980's pop has seen huge advancements in programmed rhythm section parts and the influence of hip hop, both musically and in terms of production techniques, should not be underestimated.

- In audio example LSG1SA1.mp3 you will hear a pop recording

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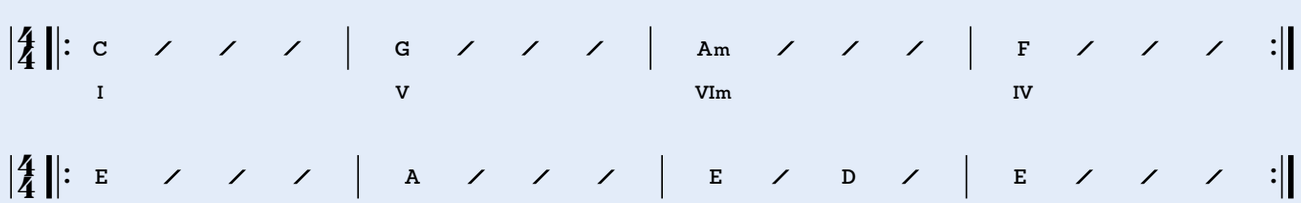
Stylistic Awareness – Rock

Rock music evolved out of 1950s rock 'n' roll. In the 1960s, rock musicians took rock 'n' roll's basic instrumentation, energy and showmanship as a starting point before expanding on its rigid blues-based formula, adding new sounds, extending song structures, tackling more complex lyrical themes and increasing the boundaries of technical virtuosity. By the 1970s, distinct musical subgenres had emerged and even today, rock continues to incorporate sounds and musical ideas from many other styles into its vocabulary. At the forefront of mainstream music for over half a century, rock has been used as a vehicle for counter-cultural and political movements, from Woodstock and the Vietnam War to punk and Live Aid. The electric guitar is rock's dominant instrument and the guitar riff remains the genre's signature, along with 4/4 meter and the verse-chorus song structures inherited from earlier musical forms. Rock's core instruments are guitar, electric bass, drums and vocals. Its most common formats are the power trio, the quartet and the five-piece (however, acts can vary in size from solo artists all the way up to the likes of 20-piece ensembles such The Polyphonic Spree). Sub-genres such as blues rock, prog rock, jazz rock and new wave introduced keys and synths while instruments from the classical and traditional worlds have also been used.

Common Rock Chord Progressions

Rock chord progressions can often be very simple and many rock songs stay in a single musical key throughout. There are always exceptions though and bands and artists such as Radiohead, Dream Theater, Frank Zappa and Steve Vai would be obvious examples.

The first example here shows a widely used 'chord loop' where chords I, V, VIm and IV of the home key (in this case C major) are played over and over in whole bar or half-bar changes. The second example is a modal chord progression in E Mixolydian. The Roman numerals show the chord numbers in relation to the key signature.



Bass Part In Root Position

The electric bass in a rock band typically plays the root of the chord on the strong beats of the bar (beats 1 & 3), but can also play chord tones, unison riffs and even melodies and solos.

Guitar Riffs With Open Strings

Many rock songs are based around the riff (usually a repeated rhythmic and melodic phrase). As many are written on electric guitar, rock players have taken advantage of the resonant open strings available in rock's go-to keys of E and A (and E and A minor) to create memorable, catchy-sounding figures. These are often played in unison with the bass and bands such as Rage Against the Machine and Led Zeppelin are obvious exponents of this approach.

Guitar Riffs With Moving Powerchords

It's possible to combine chord progressions and melodies by using power chords to create riffs. Power chords are chords using only the 1st and 5th notes of a chord and are particularly effective when using distorted/overdriven guitar sounds. Riffs featuring these moving power chord riffs are quite often one, two or four bars in length.

- In audio example LSG1SA2.mp3 you will hear a rock recording

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SUMMARY		
SECTION ***(Current section highlighted)***		**MARKS**
	Theoretical Written Exam	25 [25%]
	Listening Test	15 [15%]
>	**Coursework Task**	**60 [60%]**

At Grade 1 the *Technical Skills* will centre around session creation and basic inputting of notes using a software instrument on a digital audio workstation (DAW). The *Coursework Task* will require candidates to import a backing track into their DAW, record a melody and bounce the resulting mix to a new stereo audio file.

Candidates must complete the Coursework Task before their exam and will be asked to upload the Task and screen shots during their exam.

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Technical Skills

All capable music producers will be able to demonstrate some core technical skills and these are what will be assessed in the practical part of your grade examination.

At Grade 1, you will be expected to demonstrate that you can create a new session in your DAW and use a MIDI controller keyboard to play and record a musical performance.

This is a skill that you will use almost every time you create new music. Even if you aren't a musician yourself, it is extremely valuable to understand what it's like to be the performer as well as the producer.

As always, practice makes perfect.

There are some key things to remember when creating new sessions, one which is often overlooked is organisation. Ensure that you always name your file something appropriate and save it in an appropriate place as soon as you start. This will ensure you don't forget to do it later and will enable you to use the 'save' shortcut every time you make a change to the session.

It's good practice to save your work to a local hard disk connected to the computer you are using, rather than a USB memory stick or network drive. While this won't be an issue when you are starting out with simple arrangements, when you start creating larger more complex sessions you will benefit from the faster read and write speeds.

Learn to add software instruments to your DAW of choice and become confident with routing the channel outputs to the master outputs so that you can hear them. You may also need to alter some settings to ensure your MIDI keyboard can trigger the software instrument's sounds.

Once you become confident with playing notes, experiment with using different controls on your MIDI controller keyboard, such as pitch bend, sustain and modulation, plus any others you have available. These are how professional keyboard players obtain a slick performance, so understanding them will really help you communicate effectively with keyboard players in future.

If you have set up, named, and saved your session correctly, then you should only need to use one more shortcut to save your work when you are ready. At this point it's always worth closing your session and opening it up again, to be absolutely certain that everything has been saved correctly.

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Coursework Task

The Coursework Task element of the grade examination will put you in a situation that you are likely to be in as a working music producer. Your examiner will be assessing how well you respond to that situation, how you choose the technique required and how you demonstrate those skills.

Collaboration is a large part of music, therefore you will find this coming up a lot in the Rockschool grade exams. The scenario will quite often start with "You are working with…", which might be another producer, an artist or a record label.

Whenever you're working with someone else remotely, it's vital that you can share your work with them without losing any files. Therefore a fundamental skill you must master is organising your files and saving your sessions correctly.

Once you have mastered this, you will be able to work with people whether they are in the next building or on the other side of the planet.

A common scenario you might face is to work with a backing track that has been created by another artist or producer. They might send you their work so far for you to record a vocal, guitar line, or enhance the rhythm track in some way to help take the track in a new direction. For the Grade 1 Coursework Task you will be required to import a backing track into your DAW, record a melody and bounce the resulting mix to a new stereo audio file.

Coursework Task

60 Marks [60%]
Assets for this task can be found in the book's downloadable files

Here is a basic hip hop beat – the producer, based in a different city, has asked you to take the audio of his beat, import three sections of midi chords that he has written, and to write a different bassline for each section. Import the audio file into your DAW and set the correct BPM. Next import the 3 different chord progressions and record a bassline over the top of each, using an appropriate (pitch) software instrument, for a minimum of 8 bars for each of the three sections. Ensure your basslines are both in time and in tune with the supplied backing track and that it retains its original tempo. Once each of the three sections has a bassline, add additional melody parts to two of the sections using another suitable sound from your DAW.

Once you are happy with your solution, render the master as a stereo WAV/AIF file (16bit / 44.1kHz) and upload. Please also supply a screenshot of your work.

Submission during your exam:

1. Submit a WAV/AIF file (16bit / 44.1kHz) of your finished work
2. Upload a screen shot of your main arrangement view and mixer view

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Sample Paper

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The following pages contain examples of the types of questions you will find in the Rockschool Music Production Grade 1 exam. They give an indication of the content, format, layout and level at this grade.

You will see the sample paper has been split into the same three sections that have been presented earlier in this workbook:

- Part A: Theory
- Part B: Listening
- Part C: Coursework Task

Please visit *www.rslawards.com* for detailed information on all Rockschool examinations, including syllabus specifications, marking schemes and examination entry information.

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Part A: Theory (25%)

Section 1 | Music Production Terminology

Total marks for this section: 10

Mark:

Q 1.01 | Identify this item, commonly found in a recording studio: *(Tick one box)* — 1

- [ ] Mixing desk/console
- [ ] Microphone
- [x] Digital audio workstation
- [ ] Drum kit
- [ ] Cable

Q 1.02 | Identify this item, commonly found in a recording studio: *(Tick one box)* — 1

- [ ] Mixing desk/console
- [ ] Microphone
- [x] Digital audio workstation
- [ ] Drum kit
- [ ] Cable

Q 1.03 | Identify this physical audio format: *(Tick one box)* — 1

- [ ] Vinyl
- [x] CD
- [ ] Cassette Tape
- [ ] Minidisc
- [ ] DAT

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Q 1.04 | Identify this physical audio format: *(Tick one box)* 1

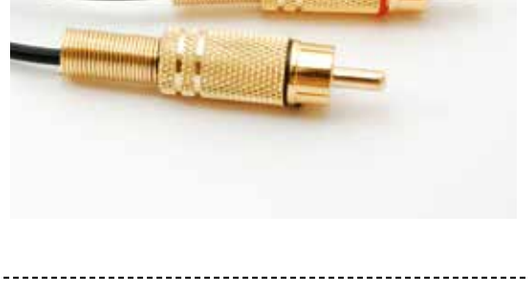
- [ ] Vinyl
- [ ] CD
- [x] Cassette Tape
- [ ] Minidisc
- [ ] DAT

Q 1.05 | Identify this analogue connector: *(Tick one box)* 1

- [ ] Jack
- [x] XLR
- [ ] Phono/RCA
- [ ] DIN
- [ ] Speakon

Q 1.06 | Identify this analogue connection: *(Tick one box)* 1

- [ ] Jack
- [ ] XLR
- [x] Phono/RCA
- [ ] DIN
- [ ] Speakon



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Q 1.07 | Identify this computer peripheral: *(Tick one box)* 1

- [ ] Mouse
- [ ] Midi keyboard
- [x] Audio interface
- [ ] Computer keyboard
- [ ] Monitor

Q 1.08 | Identify this computer peripheral: *(Tick one box)* 1

- [x] Mouse
- [ ] Midi keyboard
- [ ] Audio interface
- [ ] Computer keyboard
- [ ] Monitor

Q 1.09 | Identify this DAW: *(Tick one box)* 1

- [x] Ableton
- [ ] Pro Tools
- [ ] Cubase
- [ ] Logic
- [ ] FL Studio

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Q 1.10 | Identify this DAW: *(Tick one box)*

1

- [ ] Ableton
- [x] Pro Tools
- [ ] Cubase
- [ ] Logic
- [ ] FL Studio

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Section 2: Sound & Audio Fundamentals

Total marks for this section: 10

Mark:

Q 2.01 | Identify the following microphone: *(Tick one box)* — 1

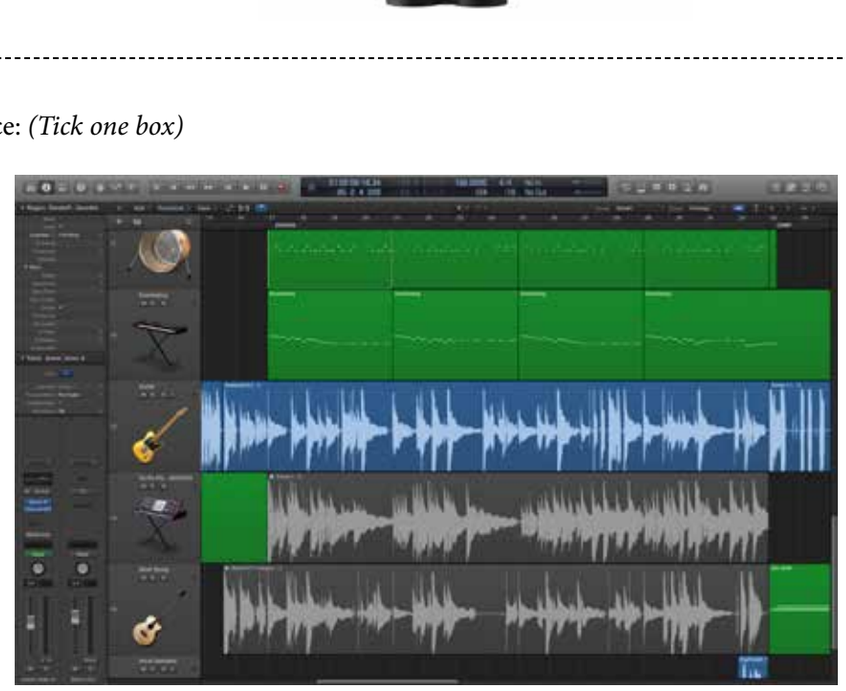
- [x] Shure SM58
- [ ] Shure SM57
- [ ] AKG D112
- [ ] Neumann U87
- [ ] AKG C451

Q 2.02 | Identify the following microphone: *(Tick one box)* — 1

- [ ] Shure SM58
- [ ] Shure SM57
- [x] AKG D112
- [ ] Neumann U87
- [ ] AKG C451

Q 2.03 | Identify this DAW workspace: *(Tick one box)* — 1

- [x] Mix window
- [ ] Arrange window
- [ ] Sample editor
- [ ] Plugin
- [ ] Transport



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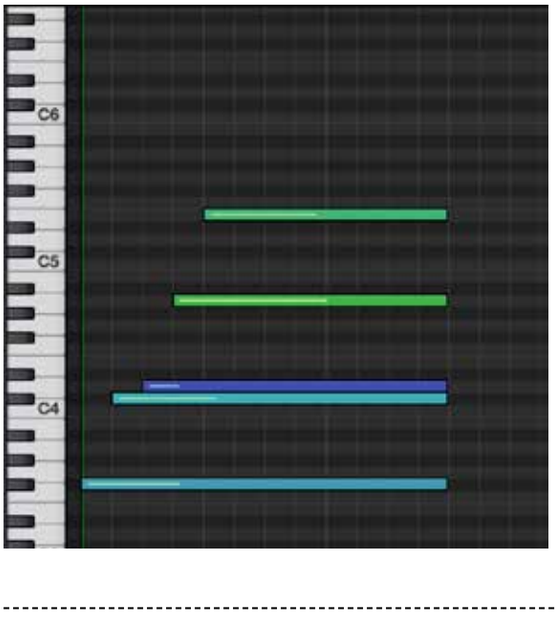
Q 2.04 | Identify this DAW workspace: *(Tick one box)* 1

- ☐ Mix window
- ☒ Arrange window
- ☐ Sample editor
- ☐ Plugin
- ☐ Transport

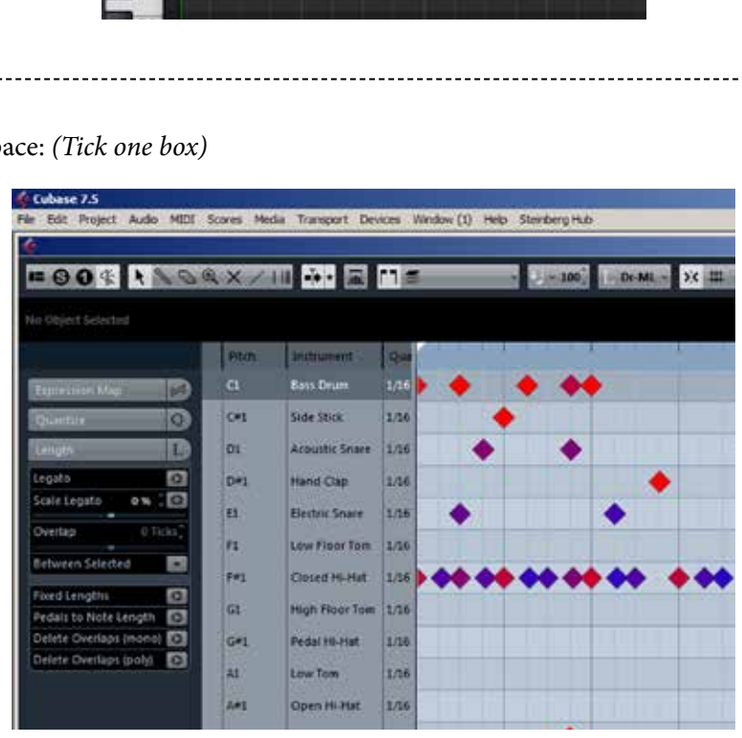
Q 2.05 | Identify this DAW MIDI workspace: *(Tick one box)* 1

- ☐ Score
- ☐ Drum editor
- ☑ Piano roll / MIDI editor
- ☐ Event editor
- ☐ Software instrument



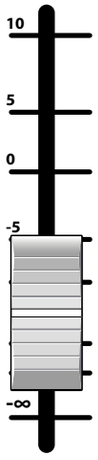
Q 2.06 | Identify this DAW MIDI workspace: *(Tick one box)* 1

- ☐ Score
- ☐ Drum editor
- ☐ Piano roll / MIDI editor
- ☒ Event editor
- ☐ Software instrument



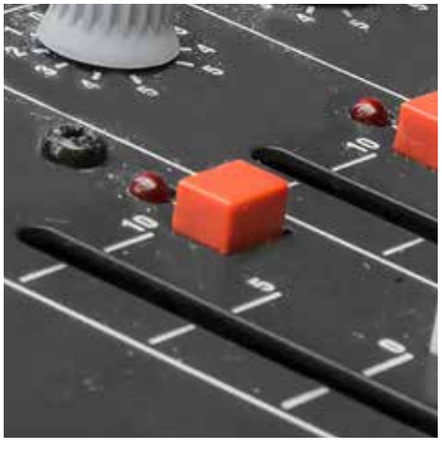
Q 2.07 | What would this control? *(Tick one box)* 1

- [ ] Pan
- [ ] Mute
- [ ] Routing
- [x] Channel level
- [ ] Headphone volume



Q 2.08 | What would this red button control? *(Tick one box)* 1

- [ ] Pan
- [x] Mute
- [ ] Routing
- [ ] Channel level
- [ ] Headphone volume



Q 2.09 | How many channels of audio are there in the mono format? 1

Your answer: .....

Q 2.10 | What is surround sound? 1

Your answer: .....

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Section 3: Glossary

Total marks for this section: 5

Mark:

Q 3.01 | What is CD an abbreviation of? 1

Your answer: .....

Q 3.02 | What is a cannon connector otherwise known as? 1

Your answer: .....

Q 3.03 | Which button or switch silences a channel? 1

Your answer: .....

Q 3.04 | Name a transport control other than play and stop: 1

Your answer: .....

Q 3.05 | What is used to generate a regular click which helps musicians play at the right tempo and time signature? 1

Your answer: .....

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Part B: Listening (15%)

Section 4: Listening Skills

Total marks for this section: 15

Mark:

Q 4.01 | Which instrument can you hear being played in audio example EXLSG1SF1.mp3? *(Tick one box)* 3

- [ ] Guitar
- [ ] Piano
- [x] Drums

Q 4.02 | Which instrument is playing the melody in audio example EXLSG1SF2.mp3? *(Tick one box)* 3

- [x] Piano
- [ ] Acoustic guitar
- [ ] Bass guitar

Q 4.03 | In audio example EXLSG1SF3.mp3, in which clip has the bass guitar been muted, A or B? *(Tick one box)* 3

- [x] A
- [ ] B

Q 4.04 | In audio example EXLSG1H1.mp3, which note is higher in pitch, A or B? *(Tick one box)* 1

- [ ] A
- [x] B

Q 4.05 | In audio example EXLSG1H2.mp3, which note is lower in pitch, A or B? *(Tick one box)* 1

- [x] A
- [ ] B

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Q 4.06 | In audio example EXLSG1R1.mp3, in which audio clip is the piano playing crotchets (quarter notes), A or B? *(Tick one box)*

1

- [ ] A
- [x] B

Q 4.07 | In audio example EXLSG1R2.mp3, in which audio clip is the piano playing quavers (eighth notes), A or B? *(Tick one box)*

1

- [x] A
- [ ] B

Q 4.08 | In which genre would you classify audio example EXLSG1SA1.mp3 the following audio clip? *(Tick one box)*

2

- [x] Rock
- [ ] Pop

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Part C: Coursework Task (60%)

Section 5: Coursework Task

Total marks for this section:	60
Mark:	

Q 5.01 | Bring your coursework task and screen shots to your exam – you will be asked to upload these during your exam. There will also be a number of questions for you to answer regarding the task. These will focus on: 60

- The skills used to complete the task
- How you approached the professional nature of the task
- How you interpreted the creative elements

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Glossary

1/4" Jack
A kind of jack connector with a diameter of approximately 1/4".

3.5mm Jack
Also known as mini-jack. A kind of jack connector with a diameter of approximately 3.5mm. Most commonly used by consumer headphones.

Ableton Live
A digital audio workstation which is very popular with electronic musicians due to its focus on real time interaction.

Amp/Amplifier
An electrical or electronic device which increases the amplitude of a signal.

Analogue
Constantly varying. Refers to audio devices which are not digital.

Arrange Window
The main area of a DAW which enables the user to organise and edit audio clips.

Audio File
An audio recording in digital format, most commonly on a computer system.

Audio Interface
The computer peripheral which enables the user to input and output audio from a computer, converting the analogue sound into digital when recording and the digital back into audio when played back.

Bass Guitar
A kind of guitar with a register that is one octave below a traditionally pitched guitar. In its most common 4-string format, the pitching mirrors the lowest four strings of a traditional guitar.

Bounce
The creation of a new mix file from the audible elements of a session.

Cable
A wire which connects two devices, normally coated in rubber or plastic for durability.

Cannon
Another name for an XLR connector.

CD
An abbreviation of 'compact disc'.

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Glossary

Cello
A wooden stringed-instrument with four tuned strings. Commonly used in classical music as well as many other genres. It is larger than a viola, giving it a deeper sound and lower pitch.

Channel (Mixing Desk)
A default signal path through a mixing desk. A mixing desk will have a set number of channels, each of which will be numbered.

Collaboration
A method of working which involves working with others with the shared goal of achieving something greater than what may have been achieved in isolation.

Compact Disc
An optical digital audio medium used for sharing music. Compact disc was the largest selling music medium from the late 80's to early 2000s and remains widely used. A CD can hold 74 minutes of stereo audio, or up to 700MB of data.

Computer
The hardware which hosts the DAW software, typically an Apple Macintosh or Windows PC.

Computer Keyboard
A computer peripheral used for entering letters into a computer. It can also be used with certain software applications to trigger shortcut functions.

Console
Also known as mixing desk or mixing console.

Contrabass
A wooden stringed-instrument with four tuned strings. Commonly used in classical music as well as many other genres. It is larger than a cello, giving it a deeper sound and lower pitch. It is commonly transposed up an octave due to the notes it is capable of, requiring excessive ledger lines making it difficult to read.

Control Room
The part of a recording studio where the sound engineer will operate the equipment, such as the mixing desk.

Controller Keyboard
An emulation of the piano which is unable to generate sounds on its own. It will generally be MIDI enabled, so will use the MIDI protocol to trigger sounds on a synthesiser.

Cubase
A digital audio workstation (DAW) created and developed by Steinberg.

Cut
Another name used for mute, used to silence signal paths on a mixing desk, e.g. channel or auxiliaries. Also used to refer to a reduction in level when using equalisation.

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DAT
An abbreviation of 'digital audio tape'.

DAW
An abbreviation of 'digital audio workstation'.

Digital Audio
Audio recorded to a digital device, such as a computer.

Digital Audio Tape
A linear medium which uses tape to record sound as digital data. Introduced in 1987, it was once the industry standard for recording final mixes before sending to be duplicated.

Digital Audio Workstation
Music production software for recording and editing MIDI and audio data. Examples include Cubase, Logic, Pro Tools, Garageband, Ableton Live. The DAW can be used for recording audio, editing audio, cutting up and rearranging audio recordings and loops, mixing, creating MP3 files and many other functions.

DIN
A five pin plug or socket, most commonly used by MIDI devices but can also carry audio when connected to audio devices.

DJ
A performer who plays back pre-recorded material, crossfading between tracks. A modern DJ may also create content of his own for playback and interact with the music.

Drum Editor
A piano roll style DAW editor but tuned to enable easier drum editing.

Drum Kit
A rhythmic instrument commonly used in modern music, featuring a combination of drums and cymbals.

Event Editor
A DAW editor window which enables the editing of individual MIDI events using text.

Fader
The component on a mixing desk which adjusts the channel level. Faders are also emulated in DAWs.

FL Studio
A digital audio workstation, originally called 'Fruity Loops' but renamed as it grew more popular. Created and developed by Image-Line.

Garageband
An entry level digital audio workstation, created and developed by Apple. Currently supplied free with every new Apple Macintosh computer.

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Glossary

Headphones
A portable pair of speakers which can be worn on the head.

Headphone Volume
The function on a device which alters the volume specific to the headphones. This control would be independent of the volume sent to the main monitor speakers in a studio.

Internet
The global system of connected computers which use a standard communication protocol.

Jack Connector
A male connector commonly used in patch bays, line level equipment and guitar connections.

Layering
Recording additional parts over the top of existing parts, so that they sound like one part when they are mixed together. For example, a string section playing the same melody as a piano.

LCD
An initialism of 'liquid crystal display'. Most commonly found as small screens.

Level
The absolute volume of an audio signal in electrical terms.

Line Input
Used for connecting line level devices, such as synthesisers or outboard equipment.

Live Room
The part of a recording studio where the performance takes place and microphones are used to record.

Logic Pro
A digital audio workstation, originally created by a company called C-Lab and now owned and developed by Apple.

Metronome
A device which emits a regular click in time with the tempo and time signature.

Microphone
A transducer which converts acoustic sound into electrical signal.

MIDI Keyboard
A piano like electronic device for triggering a MIDI synthesiser, or recording into a DAW.

Mini Jack
Also known as 3.5mm jack. A kind of jack connector with a diameter of approximately 3.5mm. Most commonly used by consumer headphones.

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Minidisc
An evolution of the CD which housed the optical disc inside a plastic case making it smaller and more durable.

Mix
The version of a recording which features all the required recorded elements balanced together coherently.

Mix Window
An area of a DAW which enables the user to balance the levels of the recorded sounds.

Mixer
The device in a recording studio which acts as the central hub, altering the audio signal or directing it to different locations. Also referred to as mixing desk or mixing console.

Mixing
The process of balancing the relative level of the recorded audio tracks. The ideal result being a coherent and well-balanced sound.

Mixing Desk
The device in a recording studio which acts as the central hub, altering the audio signal or directing it to different locations.

Monitor Display
The visual interface of a computer system.

Monitor Speaker
The main set of speakers that the sound engineer will use to listen to their mix in the studio.

Mouse
A common computer peripheral used to control the pointer on screen.

Mute
The function which silences a device or channel.

Operating System
The software installed on a computer which controls its most basic functions, such as how it communicates with peripherals and interacts with other installed software applications. The operating system is the graphic user interface that the user interacts with.

Outboard Device
Any piece of equipment which is not part of the mixing desk or computer system.

Patch Cable
A short cable which is used to make connections on a patch bay. Some guitarists also use patch cables to connect their pedals together due to their conveniently short length.

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Glossary

Peripheral
An external device that can be connected to a computer system to enhance its capabilities, e.g. audio interface, MIDI interface, keyboard, monitor or mouse.

Phono Connector
Also known as RCA connector.

Piano
A stringed instrument which uses keys to trigger hammers that strike the strings.

Piano Roll Editor
A DAW editor window which enables the manipulation of MIDI note data which is arranged in a matrix with the piano keys from top to bottom and time from left to right.

Plugin
An optional piece of software, which operates within a DAW. Many plugins are supplied with a DAW, however, further plugins can be purchased from 3rd party manufacturers. There are several formats of plugin, including Audiounit, AAX, VST and RTAS.

Pot
An abbreviation of 'potentiometer'.

Potentiometer
A variable resistor which exists on mixing consoles in the form of knobs such as gain, EQ and pan.

Pro Tools
A digital audio workstation, originally created by a company called Digidesign but now owned and developed by Avid.

Producer
The person who leads a music recording project, quite often making creative decisions and managing budgets where applicable. It is the producer's responsibility to ensure a project runs to time.

RCA Connector
Also referred to as a phono connector. An unbalanced connection, most commonly used in consumer hi-fi equipment.

Record Decks
A playback device for the vinyl format. Used by DJs, normally in pairs with a DJ mixer to crossfade between playback from each.

Recording
The process of capturing real-world audio and storing it on a physical medium.

Recording Studio
A room or complex of rooms which is used to record sound.

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Routing
A function, commonly found on mixing desks, which enables the user to set the signal path. For example, you could route a microphone signal to the input of the DAW.

Sample Editor
An area of a DAW which enables the user to edit an audio clip in detail.

Save
To retain any work in progress. In a DAW this would be the generation of a 'session' file.

Score Editor
A DAW editor window which enables the user to input or edit musical notation.

Sequencer
A legacy name for a digital audio workstation, referring to the sequencing of audio or MIDI regions in the arrange page.

Session File
A DAW saved file which will often also require additional assets such as audio files.

Software Instrument
An optional piece of software which operates within a DAW as a synthesiser of various kinds of instrument. Many software instruments are supplied with a DAW, however, further instruments can be purchased from 3rd party manufacturers.

Song
A piece of music, composed and arranged.

Sound Engineer
The person who is primarily in control of the equipment and aims to achieve the best quality of sound possible. They would work under direction from the producer.

Speakon
A cable connector created by Neutrik, used most commonly for connecting amplifiers and speakers in PA systems.

Stereo
A realistic sounding format for audio which uses two channels to emulate the feeling of space around a sound.

Stringed Instrument
An instrument which generates its sound from the resonation of a pitched string.

Strings
A collective term used for stringed instruments, most commonly referring to bowed instruments such as violin, viola, cello and contrabass.

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Glossary

Studio Assistant
The person in the studio who assists the sound engineer, for example setting up microphones or operating the patch bay.

Studio One
A digital audio workstation created and developed by Presonus.

Studio Runner
The person in the studio whose role it is to ensure that everyone has what they need during a recording session. They might be tasked with fetching equipment or making tea.

Surround Sound
An audio format which uses more than two speakers, arranged around the listener to provide a more realistic environment.

Synth
An abbreviation of 'synthesiser'.

Synthesiser
An electronic device which generates sound. This may be original sound, designed for its own tone and timbre, or it may be to emulate acoustic instruments such as piano and drums.

Tape / Magnetic Tape
A linear magnetic medium, used to record sound and music. It is now rarely used due to its inconvenience and expense, but many engineers still maintain that it sounds better than the digital equivalents.

Track
An individual element of recording or recorded material, such as a vocal or guitar. When working with more than one track, it is referred to as 'multi tracking'. A track is different to a channel.

Trackball
An alternative to a mouse which uses a ball on the top for control of the pointer. Sometimes preferred by sound engineers due to it remaining static on the work surface.

Track Pad
An alternative to a mouse which is useful in small spaces. Commonly found on laptop computers, but also available as a peripheral.

Transport
The controls of a DAW which enable the user to play, stop, pause, fast forward, rewind and record.

Trombone
A brass instrument which uses a telescopic slide to alter the note. Commonly used in classical music among many other genres.

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Trumpet
A brass instrument with three valves, the highest register in the family of instruments. Commonly used in jazz and classical music, among many other genres.

Vinyl Record
A flat circular piece of vinyl with grooves cut into it. A record player needle sits in the groove as it rotates, the vibrations in the needles are amplified to playback the recorded sound, making it an analogue medium.

Viola
A wooden stringed-instrument with four tuned strings. Commonly used in classical music as well as many other genres. It is slightly larger than a violin, giving it a deeper sound.

Violin
A wooden stringed-instrument with four tuned strings. Commonly used in classical music as well as many other genres.

World Wide Web
The content that is stored and accessed via the internet.

XLR Connector
A balanced connection, used in most professional level equipment. The standard connection for microphones. Also referred to as a cannon connector.

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Useful Information (Non-assessed)

Music Industry Roles

As a music producer or sound engineer you will spend a lot of time with musicians, it's therefore important that you can identify the instruments and musicians for the different styles of music. Here are some examples of musical ensembles and the instruments/equipment that you're most likely to encounter.

Rock Band
Vocals
Guitar
Bass guitar
Drums
Keyboards
Synthesisers

Electronic Pop Artist
Vocals
Guitar
Bass guitar
Drums
Synthesisers

Jazz Band
Guitar
Electric bass
Double bass
Drums
Piano
Horns (B♭ and E♭ saxophones, trumpet, trombone and occasionally flugelhorn & french horn)
Clarinet
Chromatic Harmonica

DJ Artist
Record decks / DJ mixer / CDJ's
Audio interface
Sampler
Synthesiser

String Quartet
Violins
Viola
Cello

Horn Section
Trumpet
Trombone
Alto, tenor & baritone saxophone

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Useful Information (Non-assessed)

Time Management

As a professional music producer or sound engineer it is important to be able to plan your time effectively. Wasted time costs money and could prevent a project becoming finished at all.

Therefore, when you're in the studio it's good to plan your time in advance, so that you and everyone else involved in the project knows what needs to be done and how much time it will take.

Here are some common activities that you may need to undertake with a rough approximation of the amount of time you should allow in normal circumstances.

Creating A New Session In Your Daw
This is quite a simple task so it shouldn't take any more than 5 minutes. Aim to do this before the musicians arrive so that you are well prepared.

Loading An Existing Daw Session
This can vary depending on how complex the session is: i.e. how many tracks there are, how many plugins are installed. Typically this will take about 30 seconds but allow for some extra time in case there are any problems with the session file which may need resolving.

Setting Up A Microphone To Record A Vocal
This is a fairly simple task which only requires one microphone, a microphone stand and perhaps a pop shield. Therefore it should take no more than 15mins to set everything up, connect the cables and test the microphone.

Setting Up Microphones To Record A Drum Kit
This will vary depending on how many microphones you are using but typically you should plan for the setup to take about 1 hour. It would be useful to have an assistant with you to adjust and test each microphone as you go.

Backing Up Files
Backing up is the process of copying your files to a second storage device just in case the first device stops working. This will vary depending on the number of files, the size of the files and how you are backing them up.

Generally you won't need to be there when the backing up is taking place, so you could leave the backup running when you take a break, or perhaps leave it running overnight if it will take a long time.

Mixing
This is something that is very difficult to put a number on. For example, you could mix a vocalist over a backing track in less than 1 hour but an 8 piece jazz band may take a lot longer due to the number of instruments and the complexity of the arrangement.

There is also an artistic element to mixing – the more creative techniques that are used, the more time it will take to be finished. It's also very easy to keep mixing and changing things even after it could be considered finished. Many world-class mix engineers will mix a forthcoming single in a day.

Therefore sometimes it may be better to allocate an amount of time to a task and ensure you can get it done in that time. There is nothing like a strict deadline for helping something be marked off as 'done'.

In all cases, allow some extra time to get things done. Sometimes things go wrong, so if you aim to get too much done in the available time, you won't be able to react to any little mishaps.

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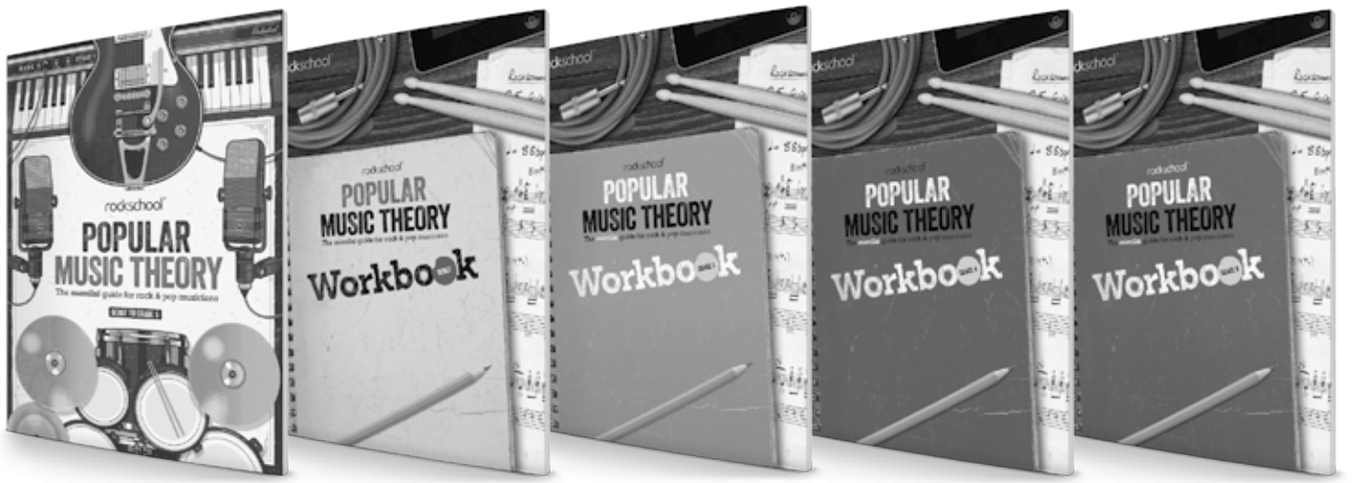

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